

USE OF AMMONIA FOR ETCHING ORGANIC LOW-K DIELECTRICS

ABSTRACT OF THE DISCLOSURE

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Method for etching organic low-k dielectric using ammonia, NH₃, as an active etchant. Processes using ammonia results in at least double the etch rate of organic low-k dielectric materials than processes using N₂/H₂ chemistries, at similar process conditions. The difference is due to the much lower ionization potential of NH₃ 10 versus N₂ in the process chemistry, which results in significantly higher plasma densities and etchant concentrations at similar process conditions.